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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,561	03/23/2004	Weirong Wang	5260-000203/US	2574
28997	7590	11/29/2005	EXAMINER	
HARNESS, DICKY, & PIERCE, P.L.C			MULLINS, BURTON S	
7700 BONHOMME, STE 400			ART UNIT	
ST. LOUIS, MO 63105			PAPER NUMBER	
			2834	

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/806,561

Applicant(s)

WANG ET AL.

Examiner

Burton S. Mullins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 31-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16, 19-26 and 28-30 is/are rejected.
- 7) ☒ Claim(s) 15, 17, 18 and 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 31-38 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group II, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on 17 October 2005.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 17 August 2005 has been considered by the examiner.

### ***Claim Objections***

3. Claims 1, 12-13, 26 and 28 are objected to because of the following informalities: In claims 1, 12-13, 26 and 28, change “positioning” (lines 4-5) to -positioned--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. Claims 1-12, 24 and 28-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 1, 12 and 28, the phrase “the at least one router capable of separating the interconnect wires when routed adjacent one another...” is indefinite because the plural wires are inconsistent with the language reciting “a least one

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router...for routing one or more of the interconnect wires....” If there is only one interconnect wire, how can it be “separated” or “routed adjacent” another wire?

Regarding claim 24, “the second inboard router” lacks antecedent basis.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-2, 4, 6, 12 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Takai et al. (EP 1193829). Takai teaches an end cap (bobbin) 13 for a segment 11 of a stator in an electromagnetic machine (Fig.5), the machine having a plurality of interconnect wires 17-20 (Fig.1), the segment 11 having a yoke portion 11 and having a tooth portion 11a (Fig.1) with a winding coil 12 wound thereon, the end cap 13 comprising: a body portion 13/13a positioned adjacent the yoke portion and having an inboard side 13b (Fig.5); an inboard wall 13c positioned adjacent the tooth portion such that the winding coil 12 wound on the tooth portion is at least partially positioned between the inboard wall and the inboard side of the body portion (Fig.4); at least one router (insulating retainer member) 14 positioned on the end cap 13 for routing one or more of the interconnect wires 17-20 between portions of the stator (Fig.3), the at least one router 14 capable of separating the interconnect wires when routed adjacent one another on the at least one router (Figs.3-5) by means of grooves 14a.

Regarding claim 2, inboard wall 13c is approximately the same height as inboard side 13b of the body portion 13/13a (Fig.5).

Regarding claim 4, grooves 13d on the body portion 13/13a comprise routers in that they hold lead wires 21-22.

Regarding claim 6, the grooves 14a of router/insulating retainer member 14 comprise 'ledges' that separate the wires 17-20 when routed adjacent one another (Figs.3-5).

Regarding claim 28, the router/insulating retainer member 14 and grooves 14a comprises "means positioned on the end cap for routing one or more interconnect wires between portions of the stator and for separating the interconnect wires from one another when routed adjacent one another on the end cap".

7. Claims 1-2, 4-6, 9-14, 16, 19-26 and 28-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Morrill (US 2,894,157). Morrill teaches an end cap (winding forms) 44 for a segment of a stator in an electromagnetic machine, the machine having a plurality of interconnect wires 42/43, the segment having a yoke portion 16 and a tooth portion 17 with a winding coil 38 wound thereon (Fig.1), the end cap comprising: a body portion (outer wall) 49 positioned adjacent the yoke portion 16 and having an inboard side (upper portion) 71 (Fig.2); an inboard wall (inner wall) 48 positioned adjacent the tooth portion 17 such that the winding coil 38 wound on the tooth portion 17 is at least partially positioned between the inboard wall 48 and the inboard side 71 of the body portion 49 (Figs.1-2); an inboard router (notches) 63/64 positioned on the inboard wall 48 of the end cap 44 and capable of routing one or more of the interconnect wires 43 between portions of the stator (c.3, lines 26-31).

Regarding claims 2 and 14, inboard wall 48 is approximately the same height as inboard side 71 of the body portion 49 (Fig.2).

Regarding claim 5, the notches 69/70 comprise “wire pockets” for holding a portion of the interconnect wires 42 and 43, the router notches 69/70 on the body portion 49 capable of routing the interconnect wires 42 between the pockets 69/70 and the other portions of the stator, i.e., other end caps 44 (Fig.1).

Regarding claims 6 and 16, the two notches 63/64 comprise ‘ledges’ that separate two of the interconnect wires 43 when they are routed adjacent one another in the notches.

Regarding claim 9, the router includes notches 63/64 or 69/70 that position interconnect wires 43/42 on the ledges formed by the notches.

Regarding claims 19-20, outboard router comprising notches 69/70 for routing interconnect wires 42 (c.3, lines 4-12). The notches 69/70 can be said to form “wire pockets” for holding interconnect wires 42 and are capable of routing the wires 42 between the pockets 69/70 and other portions of the stator, i.e., other end caps 44 (Fig.1).

Regarding claims 21-22, the two notches 69 and 70 comprise ‘ledges’ that separate two of the interconnect wires 42 when they are routed adjacent one another in the notches.

Regarding claims 10 and 23, the notches 63 and 64 extend to the outboard surface 44 of the inboard wall 48 (Fig.3) and thus can be considered “positioned on an outboard surface of the inboard wall.”

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Regarding claim 24, as best understood, the two notches 63/64 comprise 'ledges' that separate two of the interconnect wires 43 when they are routed adjacent one another in the notches on the inboard router.

Regarding claims 11 and 25, the ledges formed by notches 63/64 on inboard router wall 48 are adjacent one another, on opposing side edges of the inboard wall 48 (Fig.2), and separate two of the interconnect wires 43 when routed adjacent the outboard surface of the inboard wall (Fig.1).

Regarding claim 26, as seen in Fig.1, the wire pockets of end caps 44 are formed by notches 69 and 70 (part of body portion 49) which hold an end of the winding coil 38 as well as interconnect wire 42, and further include an edge positioned on the inboard side of the body portion 49 (inner corner, not numbered, adjacent hole 73 in Fig.2) which bends the interconnect wire 42 (Fig.1) as it passes through the notches/pockets 69/70.

Regarding claims 28-29, the notches 63/64 or 69/70 separate respective interconnect wires 42 and 43 when routed adjacent one another on end cap 44 and further comprise "wire pockets" for holding the interconnect wires 42 and 43, with means comprising upper portions 71 and 65 (Fig.2) the bend the interconnect wires between the pockets 63/64/69/70 and another portion of the stator (Fig.1).

*Allowable Subject Matter*

8. Claims 15, 17-18 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 15, the prior art does not teach that “the inboard router extends from a side edge of the inboard wall.”

Regarding claim 17, the prior art does not teach that “the first ledge is capable of routing one of the adjacent wires a further distance from the stator, and wherein the second ledge is capable of routing another of the adjacent wires a closer distance from the stator.”

Regarding claim 18, the prior art does not teach that “the inboard router includes a hook for positioning at least one of the interconnect wires on at least one of the ledges.”

Regarding claim 27, the prior art does not teach that “a tip of the edge extends beyond the body portion for positioning the interconnect wire in the wire pocket of the end cap during an automated procedure.”

9. Claims 3, 7-8 and 30 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Regarding claim 3, the prior art does not teach that “the at least one router is positioned on the inboard wall of the end cap and extends from a side edge of the inboard wall.”



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Regarding claim 7, the prior art does not teach that “the first ledge is capable of routing one of the adjacent wires a further distance from the stator, and wherein the second ledge is capable of routing another of the adjacent wires a closer distance from the stator.”

Regarding claim 8, the prior art does not teach that “the at least one router includes a hook for positioning at least one of the interconnect wires on at least one of the ledges.”

Regarding claim 30, the prior art does not teach that “the end cap includes means on the end cap for aligning the interconnect wire with the wire pocket when automatically inserting a connector into the pocket.”

### *Conclusion*

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 571-272-2029. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private

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PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "B Mullins", with a stylized flourish at the end.

Burton S. Mullins  
Primary Examiner  
Art Unit 2834

bsm

25 November 2005